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Invited Lecture

tert-Amino Effect in Heterocyclic Chemistry. Synthesis of Spiro Heterocycles

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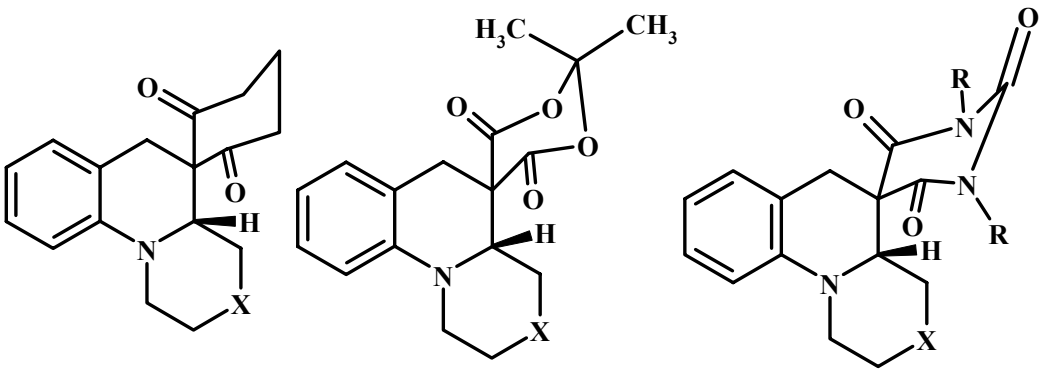
The term "*tert*-amino effect" was proposed by Meth-Cohn and Suschitzky to generalize cyclization reactions of certain derivatives of *ortho*-substituted *N*,*N*-dialkylanilines. Cyclizations occurring at the α-carbon atom in the dialkylamino group were described for compounds with an unsaturated *ortho*-substituent including at least one heteroatom (nitroso, nitro, azo, azomethino, imino, or carbonyl groups). It was found that *N*,*N*-dialkylanilines containing vinyl substituents in the *ortho* position also undergo cyclization. These reactions provide an original way of forming C—C bonds with the virtually inactivated NCH_2 group.



The aim of the present study was to develop a procedure for the synthesis of spiro derivatives of heterocycles based on the reactions proceeding by the mechanism of "*tert*-amino effect". We have proposed to use the strategy of the "*tert*-amino effect" for the synthesis of spiro compounds starting from *o*-aminobenzaldehyde and cyclic CH-active compounds, *viz*., cyclic β-diketo compounds, such as cyclohexane-1,3-dione, Meldrum's acid, and barbituric acid derivatives.

The details and progress will be present.